Understanding and Evaluating AI Research Discovery Tools

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Introduction

- What is an “AI Research Discovery Tool?”
- Why understanding and evaluating the tools is important
  - Traditional library vendors are increasingly incorporating AI into our databases
  - Researchers are using external AI discovery tools
  - Implications for search and retrieval of scholarly literature

AI Discovery Tools in Vendor Databases (Currently) (1/3)

- Clarivate
  - Web of Science
    - Research Assistant – Not available through UMD Libraries
    - Smart Search – Available through UMD Libraries
  - ProQuest Research Assistant (beta) – Available at UMD Libraries, in the ProQuest Dissertation & Theses Database
  - Primo Research Assistant (Primo = UMD Discover) – Not enabled at UMD Libraries

AI Discovery Tools in Vendor Databases (Currently) (2/3)

- Elsevier
  - Scopus AI – Available at UMD Libraries
  - Science Direct AI – Not available through UMD Libraries*
    - *Currently, users can access the “reading assistant” on an article page
  - Reaxys AI Search (beta) – Available at UMD Libraries

AI Discovery Tools in Vendor Databases (Currently) (3/3)

- CAS SciFinder AI – Available through UMD Libraries
- EBSCO AI
  - Natural Language Search – Available through UMD Libraries
  - AI Insights – Not available through UMD Libraries
- JSTOR AI – Available through UMD Libraries
- Oxford University Press Discovery Assistant (beta) – Available through UMD Libraries

Popular External AI Research Discovery Tools

- Consensus
- Elicit
- SciSpace
- Many more

Understanding the Tools (1/2)

- Where do the tools pull their content from?
  - Are they employing Retrieval Augmented Generation (RAG)?
- Who owns the tool and who owns the content?
- Will a vendor tool include only content the library has licensed?
- How does the search work?

Understanding the Tools (2/2)

- How many results are retrieved?
- How does the tool rank the results?
- What kind of synthesis is provided?
- How much of a resource does the AI “read” to generate the synthesis?

Evaluating the Tools

- If and how hallucinations appear in the results
- If and how bias appears in the search and results
- Reproducibility of the searches and results
- If and how different prompt frameworks influence the results
- How the tool manages the privacy of what you enter
- Suitability of the tools for rigorous and/or long-term research
- Price

Looking Ahead

- Tools will be introduced and change rapidly
- Some tools may go away. Some may be purchased, perhaps by the traditional library vendors
- Systematic testing of the discovery tools should be conducted
- Tools should be considered from the perspective of subject fields
- Open Access still matters. Watch traditional vendors and how they choose to partner with or limit external AI products

Thank you!

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Additional Resources

References

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Resources that Track and Explain AI Tools

- Ithaka S+R's Generative AI Product Tracker
- Emerging AI Tools for Literature Review: Comparison of GenAI Tools: Libguide from The Hong Kong University of Science and Technology

Documentation (1/4)

- Clarivate
  - Web of Science Research Assistant
    - WoS Research Assistant Product Page
      - WoS Research Assistant Support Documentation
  - Web of Science Smart Search
    - WoS Smart Search Product Announcement
    - WoScience Smart Search Support Documentation
  - Proquest Research Assistant Documentation
  - Primo Research Assistant Documentation

Documentation (2/4)

- Elsevier
  - Scopus AI
    - Scopus AI Product Page
    - Elsevier's Scopus Libguide: Scopus AI
    - Scopus Support Center: Scopus AI
  - Science Direct AI
    - ScienceDirect AI Product Page
    - ScienceDirect Support Center: Getting Started with ScienceDirect AI
  - Reaxys AI Search
    - Reaxys Product Page
    - Informational page

Documentation (3/4)

- Sci-Finder AI
  - SciFinder FAQ and Quick Reference Guides
  - Webinar detailing the product
- Ebsco AI Product Page
  - Natural Language Search Documentation
  - AI Insights Documentation
- JSTOR AI Research Tool Documentation
- Oxford University Press Discovery Assistant Documentation

Documentation (4/4)

- Consensus Product Page
  - How Consensus works (information on paper sources)
  - Help center
- Elicit Product Page
  - Paper sources
  - Support page
- Sci-Space Product Page
  - Data sources
  - Help center